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NEWS	21	JUN 30	STN AnaVist enhanced with database content from EPFULL
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NEWS	23	JUL 28	EPFULL enhanced with additional legal status information from the epoline Register
NEWS	24	JUL 28	IFICDB, IFIPAT, and IFIUIDB reloaded with enhancements
NEWS	25	JUL 28	STN Viewer performance improved
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NEWS	27	AUG 13	CA/CAPplus enhanced with printed Chemical Abstracts page images from 1967-1998
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L3 0 FILE CONFSCI
L4 0 FILE HEALSAFE
L5 0 FILE LIFESCI
L6 29 FILE PASCAL

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ACCESSION NUMBER: 2007-0344185 PASCAL

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TITLE (IN ENGLISH): Integrated on-chip inductors with magnetic films
Selected papers from the Tenth Joint Magnetism and
Magnetic Materials-International Magnetism
(MMM-Intermag) Conference, Baltimore, Maryland,
January 7-11, 2007

AUTHOR: GARDNER Donald S.; SCHROM Gerhard; HAZUCHA Peter;
PAILLET Fabrice; KAMIK Tanay; BORKAR Shekhar
HOFFMANN Axel (ed.); MCHENRY Michael E. (ed.)

CORPORATE SOURCE: Circuits Research, Intel Labs, Santa Clara CA 94040,
United States; Intel, Hillsboro, OR 97124, United
States
Argonne National Laboratory, Argonne, Illinois, United
States; Carnegie Mellon University, Pittsburgh,
Pennsylvania, United States

American Institute of Physics, College Park, MD,
United States (org-cong.); IEEE. Magnetism Society,
United States (org-cong.)

SOURCE: IEEE transactions on magnetism, (2007), 43(6),
2615-2617, 12 refs.

Conference: 10 Joint MMM-Intermag Conference,
Baltimore, MD (United States), 7 Jan 2007

ISSN: 0018-9464 CODEN: IEMGAQ

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-222H6, 354000149645801750

AN 2007-0344185 PASCAL

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AB On-chip inductors with 2 levels of magnetic material were integrated into
an advanced 130-nm CMOS process to obtain over an order of magnitude
increase in inductance (19 x) and Q-factor (16 x), significantly greater

than prior values of < 2.3x for high frequency inductors. The magnetic material enhances inductance at frequencies up to 9.8 GHz. Measurements and models of the permeability from amorphous CoZrTa alloy demonstrate that the skin effect and eddy current dampening become important. Two levels of magnetic material with high-temperature and long annealing-time stability, high saturation magnetization, low magnetostriction, high resistivity, minimal hysteretic loss, and compatibility with Si technology were used in combination with magnetic vias and elongated structures that take advantage of the uniaxial magnetic anisotropy.

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ACCESSION NUMBER: 2007-0130739 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2007 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Permeability of fine magnetic particles :
Measurements, calibration, and pitfalls
Selected papers from the International Magnetism
Conference (Intermag 2006), San Diego, California, May
8-12, 2006
AUTHOR: DOK WON LEE; WANG Shan X.; YUN JUN TANG; HONG Jung-Il;
BERKOWITZ Ami E.
SHULL Robert D. (ed.)
CORPORATE SOURCE: Department of Materials Science and Engineering,
Stanford University, Stanford, CA 94305-4045, United
States; Western Digital, Lake Forest, CA 92630, United
States; Department of Physics, University of
California at San Diego, La Jolla, CA 92093, United
States
National Institute of Standards and Technology,
Gaithersburg, MD, United States
Institute of Electrical and Electronics Engineers
(IEEE), New York, NY, United States (org-cong.)
SOURCE: IEEE transactions on magnetism, (2006), 42(10),
3335-3337, 8 refs.
Conference: 41 Intermag 2006 International Magnetism
Conference, San Diego, California (United States), 8
May 2006
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222H6, 354000157220113540

AN 2007-0130739 PASCAL
CP Copyright .COPYRGT. 2007 INIST-CNRS. All rights reserved.
AB High-frequency permeability spectra of FeSiB coatings prepared with
spark-eroded magnetic particles were studied. In order to measure the
relative permeability of FeSiB coatings with low permeability more
accurately, the calibration procedure of the existing permeameter was
modified. The modified permeability spectra indicate that FeSiB coatings
have the relative permeability below 10 and appreciable losses at
frequencies above .eqvsim. 20 MHz. Permeability spectra of CoTaZr
amorphous films with the relative permeability above 600 were used for
the comparison.

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ACCESSION NUMBER: 2006-0516070 PASCAL
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TITLE (IN ENGLISH): Perpendicular magnetic recording technology at 230 Gbit/in.sup.2
 Proceedings of the 6th International Symposium on Physics of Magnetic Materials (ISPMM 2005), 13-16 September 2005, Singapore

AUTHOR: MOSER A.; BONHOTE C.; DAI Q.; DO H.; KNIGGE B.; IKEDA Y.; LE Q.; LENGFIELD B.; MACDONALD S.; LI J.; NAYAK V.; PAYNE R.; SCHABES M.; SMITH N.; TAKANO K.; TSANG C.; VAN DER HEIJDEN P.; WERESIN W.; WILLIAMS M.; XIAO M.

CORPORATE SOURCE: LIU Bo (ed.); LI Kebin (ed.); ZHOU Tiejun (ed.)
 San Jose Research Center, Hitachi Global Storage Technologies, 650 Harry Rd, San Jose, CA 95120, United States

SOURCE: Data Storage Institute, Singapore 117 608, Singapore
 Journal of magnetism and magnetic materials, (2006), 303(2), 271-275, 12 refs.
 Conference: 6 ISPMM 2005 International Symposium on Physics of Magnetic Materials, Singapore (Singapore), 13 Sep 2005
 ISSN: 0304-8853 CODEN: JMMMD

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: Netherlands

LANGUAGE: English

AVAILABILITY: INIST-17230, 354000115478180010

AN 2006-0516070 PASCAL

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AB A perpendicular recording system that allows areal densities beyond 200 Gbit/in.sup.2 has been designed and tested to investigate the major challenges in perpendicular magnetic recording. The integrated write/read head has a trailing shield to improve the write head field gradient and a conventional CIP-GMR reader. The medium is a low-noise CoPtCr-based oxide medium with a CoTaZr soft underlayer. On track byte error rates at .eqvsim. 50 Mb/s are better than 10.sup.-.sup.4 at .eqvsim.1000 kbp. Using a 15% off-track criterion at 10.sup.-.sup.2 byte error rate, track densities between 200-240 ktpi are realized, yielding areal densities of 210-233 Gbit/in.sup.2. High-resolution magnetic force microscopy (hrMFM) has been employed to investigate the write characteristics of these heads with improved cross-track resolution. Using a quantitative analysis method, many parameters, such as transition curvature and transition width, are estimated from the hrMFM image. Significant transition curvature is found, which increases the width of the read head response to a transition, T.sub.5.sub.0, by 2-3 nm. These results give insights into the recording physics of perpendicular recording and in particular point out improvements required for achieving even higher areal densities.

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ACCESSION NUMBER: 2005-0346394 PASCAL

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TITLE (IN ENGLISH): Exchange-biased soft underlayers for perpendicular recording

AUTHOR: TANAHASHI Kiwamu; ARAI Reiko; HOSOE Yuzuru

CORPORATE SOURCE: Storage Technology Research Center, Hitachi, Ltd., Odawara, Kanagawa 256-8510, Japan

SOURCE: IEEE transactions on magnetics, (2005), 41(2), 577-580, 6 refs.

Conference: 15 Annual Magnetic Recording Conference
(TRMC 2004), Boulder, Colorado (United States), 11 Aug
2004
ISSN: 0018-9464 CODEN: IEMGAQ

DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222H6, 354000127014970080

AN 2005-0346394 PASCAL
CP Copyright .COPYRGT. 2005 INIST-CNRS. All rights reserved.
AB We inserted NiFe/CoFe/antiferromagnetic-MnIr/ CoFe layers between two
CoTaZr soft layers to enhance the exchange-bias field
(H.sub.e.sub.b) and then evaluated the effect of this lamination on the
spike noise and recording characteristics of CoCrPt-SiO_x media with an
exchange-biased soft magnetic underlayer (SUL). The two CoTaZr
layers were exchange-biased radially throughout the disk, and a higher
H.sub.e.sub.b was obtained for the upper CoTaZr layer. By using
the laminated SUL, spike noise was suppressed even when the total
thickness of the CoTaZr layers was increased to 300 nm.
Although the medium had a high H.sub.c of 7.0 kOe, a fairly good
overwrite and signal-to-noise ratio were obtained. As another application
of exchange biasing, we also examined the possibility of combining
exchange biasing and antiparallel-coupled (APC) soft layers; i.e., a
pinned APC SUL. An exchange-bias field from the pinning layers to the
lower CoTaZr layer and an exchange-coupled field between the
two CoTaZr layers were successfully applied. The medium with
the pinned APC SUL showed no spike noise throughout the disk, and
wide-area adjacent track erasure was effectively suppressed.

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ACCESSION NUMBER: 2005-0126987 PASCAL
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TITLE (IN ENGLISH): Dynamic and static magnetic anisotropy in thin-film
cobalt zirconium tantalum
Proceedings of the 5th International Symposium on
Metallic Multilayers (MML04)

AUTHOR: NIBARGER J. P.; EWASKO R. L.; SCHNEIDER M. L.; SILVA
T. J.
CELINSKI Zbigniew (ed.); SILVA Thomas (ed.)

CORPORATE SOURCE: Storage Technology Corp., One StorageTek Drive,
Louisville, CO 80028-4274, United States; National
Institute of Standards and Technology,
Electromagnetics Division, Boulder, CO 80305, United
States
Department of Physics, University of Colorado, 1420
Austin Bluffs Parkway, Colorado Springs 80918, United
States; NIST, Boulder, United States

SOURCE: Journal of magnetism and magnetic materials, (2005),
286, 356-361, 11 refs.
Conference: 5 MML04 International Symposium on
Metallic Multilayers, Boulder, CO (United States), 8
Jun 2004
ISSN: 0304-8853 CODEN: JMMMD

DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-17230, 354000126616340760

AN 2005-0126987 PASCAL
CP Copyright .COPYRGT. 2005 INIST-CNRS. All rights reserved.
AB The magnetic anisotropy values of thin amorphous cobalt zirconium tantalum (CZT) films were determined from static and dynamic measurements. Dynamic techniques show a rotatable component of anisotropy that decreases with increasing longitudinal bias field from 200 to 0±48 A/m (2.5 to 0±0.6 Oe). The dynamic value of the anisotropy is important when using CZT in high-frequency magnetic applications. Static values were obtained with an induction-field magnetometer while dynamic values were obtained using a pulsed inductive microwave magnetometer.

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ACCESSION NUMBER: 2004-0242635 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2004 American Institute of Physics. All rights reserved.
TITLE (IN ENGLISH): Dynamic anisotropy in amorphous CoZrTa films
AUTHOR: NEUDERT Andreas; MCCORD Jeffrey; SCHAFER Rudolf; SCHULTZ Ludwig
CORPORATE SOURCE: Leibniz Institute for Solid State and Materials Research IFW Dresden, Helmholtzstrasse 20, D-01069 Dresden, Germany
SOURCE: Journal of applied physics, (2004-06-01), 95(11), 6595-6597
ISSN: 0021-8979 CODEN: JAPIAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-126

AN 2004-0242635 PASCAL
CP Copyright .COPYRGT. 2004 American Institute of Physics. All rights reserved.
AB The high-frequency response of amorphous CoZrTa thin films was measured by using a pulsed inductive microwave magnetometer. The anisotropy of the magnetic films was varied by magnetic field annealing. Static anisotropy field values ranging from H.sub.k=100 to 1920 A/m were obtained. The dynamically determined anisotropy field is shifted to higher values compared to the static anisotropy by an additional isotropic internal field H.sub.a.sub.d.sub.d. This internal field is independent of the strength of the static anisotropy field. We determined a value of about H.sub.a.sub.d.sub.d=510 A/m. .COPYRGT. 2004 American Institute of Physics.

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ACCESSION NUMBER: 2003-0231923 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 American Institute of Physics. All rights reserved.
TITLE (IN ENGLISH): Exchange-biased CoTaZr soft underlayer for perpendicular recording
AUTHOR: TANAHASHI Kiwamu; KIKUKAWA Atsushi; HOSOE Yuzuru
CORPORATE SOURCE: Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo 185-8601, Japan
SOURCE: Journal of applied physics, (2003-05-15), 93(10), 8161-8163
ISSN: 0021-8979 CODEN: JAPIAU
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States

LANGUAGE: English
 AVAILABILITY: INIST-126
 AN 2003-0231923 PASCAL
 CP Copyright .COPYRGT. 2003 American Institute of Physics. All rights reserved.
 AB As a way of controlling the domain structure of a soft magnetic underlayer, we introduced a Pd/antiferromagnetic-MnIr/CoFe trilayer below a CoTaZr soft magnetic underlayer in perpendicular recording media, and we examined the effect of exchange biasing on the spike noise. Films consisting of layer structure-Pd (5 nm thick)/MnIr (7.5 nm)/CoFe (1-10 nm)/CoTaZr (50-200 nm)-were sputter deposited on precoated glass disks. The Fe content in the CoFe layer was varied from 5 to 70 atomic% . After deposition, the films were heated to 250°C and cooled in a magnetic field. Both uniaxial and unidirectional anisotropies were induced along the radial direction of the disk. It was found that the Pd layer promoted a face-centered-cubic-MnIr (111) crystalline texture, while the CoFe layer enhanced the exchange bias field $H_{\text{sub.e.sub.x}}$ by 1.5-3.2 times, compared with that in the case of a Pd/MnIr/CoTaZr film. The value of $H_{\text{sub.e.sub.x}}$ was strongly dependent on the CoFe alloy composition. By using the Pd/MnIr/Co_{0.6}Fe_{0.4} trilayer, spike noise was suppressed when the thickness of the CoTaZr layer ranged from 50 to 200 nm. This suppression is probably due to the fact that the exchange biasing restrained the formation of domain walls in the CoTaZr layers. .COPYRGT. 2003 American Institute of Physics.

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ACCESSION NUMBER: 2004-0131569 PASCAL
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 TITLE (IN ENGLISH): Influence of magnetic properties on magnetization dynamics of high- ρ films
 Selected Papers from the 2003 International Magnetism Conference (INTERMAG 2003), Boston Marriott Copley Place, Boston, MA, March 30-April 3, 2003
 AUTHOR: MCCORD Jeffrey; PAUL Johannes
 CORPORATE SOURCE: Leibniz Institute for Solid State and Materials Research, 01069 Dresden, Germany, Federal Republic of; IBM Speichersysteme GmbH, 55131 Mainz, Germany, Federal Republic of
 SOURCE: IEEE transactions on magnetism, (2003), 39(5, PART2), 2359-2361, 9 refs.
 Conference: INTERMAG 2003 International Magnetism Conference, Boston, MA (United States), 30 Mar 2003
 ISSN: 0018-9464 CODEN: IEMGAQ
 DOCUMENT TYPE: Journal; Conference
 BIBLIOGRAPHIC LEVEL: Analytic
 COUNTRY: United States
 LANGUAGE: English
 AVAILABILITY: INIST-222H6, 354000113114130450
 AN 2004-0131569 PASCAL
 CP Copyright .COPYRGT. 2004 INIST-CNRS. All rights reserved.
 AB The influence of magnetic properties on the magnetization dynamics of high-resistivity amorphous CoZrTa thin films was investigated. A strong correlation with magnetic coercivity was found. Even small values of coercivity have an effect on the observed FMR frequency and the effective magnetic damping parameter α . The increased coercivity is due to a locally changing magnetic anisotropy distribution acting as a trap for the domain walls. The inhomogeneous anisotropy distribution in the films leads to additional frequency components observed during the

dynamic remagnetization processes. The anisotropy field is measured directly from the dynamically obtained data. The observed dynamic response of the films makes them suitable for applications in the gigahertz regime.

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ACCESSION NUMBER: 2003-0227106 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Low-noise CoCrPtO perpendicular media with improved resolution
AUTHOR: VELU E. M. T.; MALHOTRA Sudhir; BERTERO Gerardo; WACHENSCHWANZ David
CORPORATE SOURCE: Komag Inc., San Jose, CA 95131, United States
SOURCE: IEEE transactions on magnetics, (2003), 39(2, PART1), 668-672, 11 refs.
Conference: 13 Annual Magnetic Recording Conference on Recording Systems (TMRC '02), Santa Clara, CA (United States), 26 Aug 2002
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222H6, 354000104257920090

AN 2003-0227106 PASCAL
CP Copyright .COPYRGT. 2003 INIST-CNRS. All rights reserved.
AB CoCrPtO perpendicular media with coercivities greater than 6000 Oe, M.sub.r/M.sub.s equal to 1.0, and negative nucleation fields exceeding 3000 Oe were produced. The crystallographic, magnetic, and recording properties were optimized with respect to Ru interlayer and CoTaZr soft-underlayer thicknesses. Media with exchange decoupled magnetic grains as small as 7 nm with a narrow size distribution capable of supporting a linear density up to 720 kfc/ in were produced. Thermal decay measured at 50 kfc/ in at ambient temperature was less than 0.1%.

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ACCESSION NUMBER: 2002-0243367 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2002 American Institute of Physics. All rights reserved.
TITLE (IN ENGLISH): Reduction of spike noise in perpendicular recording media by using MnIr antiferromagnetic films
AUTHOR: TANAHASHI Kiwamu; KIKUKAWA Atsushi; SHIMIZU Noboru; HOSOE Yuzuru
CORPORATE SOURCE: Central Research Laboratory, Hitachi, Ltd., Kokubunji, Tokyo 185-8601, Japan
SOURCE: Journal of applied physics, (2002-05-15), 91(10), 8049-8051
ISSN: 0021-8979 CODEN: JAPIAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-126

AN 2002-0243367 PASCAL
CP Copyright .COPYRGT. 2002 American Institute of Physics. All rights reserved.
AB We introduced a NiFe/antiferromagnetic-MnIr bilayer or a NiFe/MnIr/NiFe trilayer below a CoTaZr soft magnetic underlayer in

perpendicular recording media as a way of controlling the magnetic domain structure of the soft magnetic underlayer, and we investigated the effect of exchange biasing on the spike noise. Samples consisting of a layer structure-NiFe (5 nm thick)/MnIr (2.5-50 nm)/NiFe (5 nm)/CoTaZr (50-200 nm)-were sputter deposited on precoated glass disks. The samples were heated with a lamp heater and cooled in a magnetic field along the radial direction of the disk. Both uniaxial and unidirectional anisotropies were induced along the magnetic field when the thickness of the MnIr layer was more than 5 nm. The first NiFe layer promoted a fcc-MnIr (111) crystalline texture, while the second NiFe layer enhanced the value of exchange-bias field by about 20%. The exchange-bias field increased from 6 to 24 Oe as the CoTaZr-layer thickness decreased from 200 to 50 nm. Many spikes along the radial direction were observed for a 100-nm-thick CoTaZr single-layer film, while no remarkable spikes were observed for a NiFe/MnIr/NiFe/CoTaZr (100 nm) film. It was found that the NiFe/MnIr/NiFe trilayer restrained the formation of domain walls in the CoTaZr layer, thereby reducing the spike noise. .COPYRGT. 2002 American Institute of Physics.

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ACCESSION NUMBER: 2003-0023896 PASCAL

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TITLE (IN ENGLISH): High-frequency microinductors with amorphous magnetic ground planes
Selected papers from the 2002 international magnetism conference (INTERMAG 2002), Amsterdam, The Netherlands, April 28-May 2, 2002 (Part I of two parts)

AUTHOR: CRAWFORD Ankur M.; GARDNER Donald; WANG Shan X.

CORPORATE SOURCE: Department of Materials Science and Engineering, Stanford University, Stanford, CA 94305, United States; Intel Corporation, Santa Clara, CA 95054, United States; Departments of Electrical Engineering and Materials Science, Stanford University, Stanford, CA 94305, United States

SOURCE: IEEE transactions on magnetism, (2002), 38(5, PART1), 3168-3170, 7 refs.

Conference: INTERMAG 2002: International Magnetism Conference, Amsterdam (Netherlands), 28 Apr 2002

ISSN: 0018-9464 CODEN: IEMGAQ

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-222H6, 354000105351864120

AN 2003-0023896 PASCAL

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AB For the first time, inductors were fabricated on silicon using standard silicon processing tools. The 2.75 turn device exhibits a cutoff frequency of 3.3 GHz. The study incorporated ground planes of amorphous CoTaZr below and above the inductor. CoTaZr has a resistivity of $100 \mu\Omega \cdot \text{cm}$, a $4\pi M$ of 15 kG, a permeability of 870 up to 1.4 GHz, and an H_c of 0.2 Oe (unpatterned film). These properties were monitored during the process and showed no signs of degradation, even after being exposed to process temperatures of 400 °C. Octagonal devices with slotted ground planes had the best frequency response with a cutoff frequency of 3.3 GHz for inductors with 0.4- μm -thick ground planes. Maximum inductive enhancement (over air-core inductors) of 50%-60% has been measured for

devices with 1 μm of CoTaZr underneath the inductor. Similarly, two layers of 0.4- μm CoTaZr exhibit increased inductance of 30%-40% with one ground plane and up to 150% with two ground planes.

L8 ANSWER 12 OF 29 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER: 2003-0126783 PASCAL
TITLE (IN ENGLISH): Effects of carbon intermediate layer on structural and magnetic properties of double-layered perpendicular magnetic recording media
AUTHOR: HONDA Y.; HIRAYAMA Y.; KIKUKAWA A.; FUTAMOTO M.
CORPORATE SOURCE: Central Research Laboratory Hitachi Ltd.,
Kokubunji-shi 185-8601, Japan
SOURCE: IEICE Transactions on Electronics, (2002), v
E85-C(10), 1745-1749, 10 refs.
ISSN: 0916-8524 CODEN: IELEEEJ
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: English
AVAILABILITY: INIST-26604

AN 2003-0126783 PASCAL

AB The effects of an intermediate layer of carbon on the structural and magnetic properties of a CoCrPtTa recording layer were investigated in double-layered perpendicular magnetic recording media with either amorphous CoTaZr or crystalline FeAlSi as soft magnetic backlayers. Introducing a thin layer of carbon enhanced the perpendicular magnetic anisotropy with both soft magnetic backlayers. This result suggests that the introduction of a non-magnetic intermediate layer is useful in improving the basic magnetic properties of the CoCr-alloy recording layer even when an amorphous soft magnetic backlayers is used.

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ACCESSION NUMBER: 2002-0062520 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Observation of magnetic interaction between the soft magnetic and the recording layers in double-layer perpendicular media
Selected Papers from the Eighth Joint Magnetism and Magnetic Materials-International Magnetism Conference (MMM-Intermag), San Antonio, TX, January 7-11, 2001
AUTHOR: HONDA Yukio; TANAHASHI Kiwamu; HIRAYAMA Yoshiyuki; KIKUKAWA Atsushi; FUTAMOTO Masaaki
CORPORATE SOURCE: Central Research Laboratory, Hitachi Ltd, Kokubunji, Tokyo 185-8601, Japan
SOURCE: IEEE transactions on magnetism, (2001), 37(4, PART1), 1315-1318, 7 refs.
Conference: 8 Joint MMM-Intermag Conference, San Antonio, TX (United States), 7 Jan 2001
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222H6, 354000099196490260

AN 2002-0062520 PASCAL

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AB Magnetic force microscopy was used to study the magnetic interaction in

double-layer perpendicular media between the CoCrPt recording layer and the CoTaZr soft magnetic layer by observing the magnetization structure from the soft magnetic layer side. A strong magnetic interaction between the two layers was observed when the layers were in direct contact. Introducing a thin nonmagnetic layer between the two magnetic layers reduced the magnetic interaction and resulted in the reduction of the media noise of double-layer perpendicular media.

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ACCESSION NUMBER: 2002-0139606 PASCAL

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TITLE (IN ENGLISH): Micro/nanomechanical and tribological studies of bulk and thin-film materials used in magnetic recording heads

Proceedings of the 28th International Conference on Metallurgical Coatings and Thin Films, San Diego, California, April 30-May 4 2001

AUTHOR: XIAODONG LI; BHUSHAN Bharat MITTERER Christian (ed.); PIQUE Alberto (ed.); MARCHEV Krassimir (ed.); SCHNEIDER Jochen M. (ed.); VOEVODIN Andrey A. (ed.)

CORPORATE SOURCE: Computer Microtribology and Contamination Laboratory, Department of Mechanical Engineering, The Ohio State University, 206 West 18th Avenue, Columbus, OH 43210-1107, United States

The University of Leoben, Department of Physical Metallurgy and Materials Testing, Franz Josef Strasse 18, 8700 Leoben, Austria; US Naval Research Laboratory, Code 6372, 4555 Overlook Ave SW, Washington DC 20375, United States; The Gillette Company, Gillette Advanced Technology Center, US, One Gillette Park, Boston MA 02127-1096, United States; Department of Physics IFM, Linköping University, 58183 Linköping, Sweden; Air Force Research Laboratory, AFRL/MLBT, Bldg. 654, 2941 P Street, WPAFB, OH 45433-7750, United States

SOURCE: Thin solid films, (2001), 398-99(1), 313-319, 11 refs. Conference: 28 International Conference on Metallurgical Coatings and Thin Films, San Diego, California (United States), 30 Apr 2001 ISSN: 0040-6090 CODEN: THSFAP

DOCUMENT TYPE: Journal; Conference

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: Switzerland

LANGUAGE: English

AVAILABILITY: INIST-13597, 354000094314620530

AN 2002-0139606 PASCAL

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AB Micro/nanomechanical characterization of the bulk Al.sub.20.sub.3-TiC and Ni-Zn ferrite, and thin films of Co-Zr-Ta and Al.sub.20.sub.3 used in magnetic recording heads have been carried out. Hardness, elastic modulus and scratch resistance of these materials were measured by nanoindentation and microscratching using a nanoindenter. Fracture toughness was measured by indentation using cube corner and Vickers indenters. Friction and wear properties for these materials were measured using an accelerated ball-on-flat tribometer. Al.sub.20.sub.3-TiC shows the highest hardness, elastic modulus and scratch resistance as well as the lowest wear damage, followed by the Ni-Zn ferrite, Al.sub.20.sub.3 films, and Co-Zr-Ta film. The Co-Zr-Ta film exhibits the highest fracture

toughness, followed by the Al.sub.20.sub.3-TiC, Al.sub.20.sub.3 films and Ni-Zn ferrite. There exists a good correlation between mechanical properties and wear damage. Higher mechanical properties result in less wear damage. In general, the bulk Al.sub.20.sub.3-TiC and Ni-Zn ferrite show lower damage than the Co-Zr-Ta and Al.sub.20.sub.3 films. For the thin films studied, the Al.sub.20.sub.3 films show higher mechanical properties and less scratch and wear damage.

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ACCESSION NUMBER: 2001-0486794 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Improvement of the crystallographic orientation of double-layered perpendicular recording media by using CoCr (Mo)/Cu intermediate layers
Proceedings of the fifth Perpendicular Magnetic Recording Conference (PMRC 2000), Sendai, Japan, 23-26 October 2000
AUTHOR: TAMAI Ichiro; YAMAMOTO T.; KIKUKAWA A.; TANAHASHI K.; ISHIKAWA A.; FUTAMOTO M.
CORPORATE SOURCE: MURAOKA Hiroaki (ed.); YAMAMOTO Setsuo (ed.)
Central Research Laboratory, Hitachi, Ltd., 1-280 Higashi-koigakubo, Kokubunji, Tokyo 185-8601, Japan
Tohoku University, Japan; Yamaguchi University, Japan
SOURCE: Journal of magnetism and magnetic materials, (2001), 235(1-3), 78-81, 4 refs.
Conference: 5 PMRC 2000 Perpendicular Magnetic Recording Conference, Sendai (Japan), 23 Oct 2000
ISSN: 0304-8853 CODEN: JMMMDC
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-17230, 354000096427200140

AN 2001-0486794 PASCAL
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
AB We have introduced intermediate layers of CoCr/Cu and CoCrMo/Cu between a CoCrPtB recording layer and a soft-magnetic CoTaZr underlayer.
The combination of the FCC-Cu first-intermediate layer and the HCP-CoCrMo second-intermediate layer was found to enhance the c-axis vertical orientation of the CoCrPtB recording layer. In media with intermediate layers of CoCrMo/Cu, the thickness of the intermediate layers can be reduced without sacrificing good magnetic properties, and this leads to high resolutions.

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ACCESSION NUMBER: 2001-0486793 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Effects of thin carbon intermediate layer on magnetic and structural properties of perpendicular recording media
Proceedings of the fifth Perpendicular Magnetic Recording Conference (PMRC 2000), Sendai, Japan, 23-26 October 2000
AUTHOR: NAKAGAWA H.; HONDA Y.; KIKUKAWA A.; TANAHASHI K.; ISHIKAWA A.; FUTAMOTO M.
CORPORATE SOURCE: MURAOKA Hiroaki (ed.); YAMAMOTO Setsuo (ed.)
Hitachi, Ltd., Central Research Laboratory, 1-280

Higashi-koigakubo, Kokubunzi-shi, Tokyo 185-8601,
Japan
Tohoku University, Japan; Yamaguchi University, Japan
SOURCE: Journal of magnetism and magnetic materials, (2001),
235(1-3), 73-77, 6 refs.
Conference: 5 PMRC 2000 Perpendicular Magnetic
Recording Conference, Sendai (Japan), 23 Oct 2000
ISSN: 0304-8853 CODEN: JMMMDC
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-17230, 354000096427200130

AN 2001-0486793 PASCAL
CP Copyright .COPYRGT. 2001 INIST-CNRS. All rights reserved.
AB CoCrPt/CoCr/carbon films were sputter-deposited on CoTaZr
soft-magnetic underlayers and the effects of a carbon intermediate layer
on magnetic and recording properties were investigated by changing a
heating sequence in sample preparations. A heating process before a CoCr
deposition was needed to obtain a high perpendicular coercivity. The
carbon diffusion into a CoCr layer during its deposition led to small
crystal grains in the CoCr layer and thereby the CoCrPt layer.
Consequently, a high perpendicular coercivity was obtained, which was
considered due to the change in magnetization process from a wall motion
to a coherent rotation. The use of a thin (1-5 nm) carbon intermediate
layer was found to be effective to obtain both low noise and high
resolution.

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ACCESSION NUMBER: 1999-0183311 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 American Institute of
Physics. All rights reserved.
TITLE (IN ENGLISH): Head parameter sensitivity study of the intrinsic
field reversal time
AUTHOR: GEORGE Peter K.; JURY Jason C.; JUDY Jack
CORPORATE SOURCE: St. Cloud State University, Department of Electrical
Engineering, St. Cloud, Minnesota 56301-4498;
University of Minnesota, Electrical and Computer
Engineering, Minneapolis, Minnesota 55455-0154
SOURCE: Journal of applied physics, (1999-04-15), 85(8),
4979-4981
ISSN: 0021-8979 CODEN: JAPIAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-126
AN 1999-0183311 PASCAL
CP Copyright .COPYRGT. 1999 American Institute of Physics. All rights
reserved.
AB Studies to establish the key head sensitivity parameters affecting the
intrinsic field reversal time are reported. The effect of supply voltage,
eddy current damping, head moment, and turns are investigated using the
nonlinear, eddy current damped, thin-film write head model proposed by
Klaassen and Hirko [IEEE Trans. Magn. 32, 3524 (1996)]. The model is
realized using PSPICE circuit simulation. Eddy current time constant
dependencies derived by Wood, Williams, and Hong [IEEE Trans. Magn. 26,
2954 (1990)] are used to explore materials with magnetizations ranging
from $4\pi M_{\text{sub}} = 10\text{--}20$ kG, resistivities of 25 and 125
 $\mu\Omega\text{-cm}$ and heads with 10-15 turns. Confirmation of the above

writer sensitivities has been investigated using a short yoke 37 turn, high moment, low eddy current CoTaZr inductive head. From the experimentally determined model parameters, rise time results are computed for an improved 10 turn writer design. The results are shown to approach or exceed the limiting dynamics of the spin system. .COPYRGT. 1999 American Institute of Physics.

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ACCESSION NUMBER: 2000-0018449 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2000 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Frequency and transient response of Yoke flux for 45/55 NiFe and CoTaZr thin film write heads 1999 International Magnetism Conference, INTERMAG '99, Kyongju, Korea, May 18-21, 1999. Part I
AUTHOR: JURY J.; GEORGE P.; JUDY J. H.
RAMANAN V. R. (ed.); WELLER Dieter (ed.); TAEK DONG LEE (ed.); BULARZIK Joseph H. (ed.); INOMATA Koichiro (ed.); SUNG-CHUL SHIN (ed.); PETRIE Edward M. (ed.); MIURA Yoshimasa (ed.); PASQUALE Massimo (ed.); COCHRAN Dewey E. (ed.)
CORPORATE SOURCE: The Center for Micromagnetics and Information Technologies (MINT), University of Minnesota, Minneapolis, MN 55455, United States; Electrical Engineering, St. Cloud State University, St. Cloud MN 56301, United States
ABB Power T&D Company, United States; IBM, United States; Korea Advanced Institute of Science and Technology, Korea, Republic of; Magnetism International, United States; Toshiba Corporation, Japan; Fujitsu Limited, Japan; Istituto Eletrotecnico Nazionale Galileo Ferraris, Italy; Naval Research Laboratory, United States
The Korean Magnetism Society, Korea, Republic of (patr.); IEEE. Magnetism Society, United States (patr.)
SOURCE: IEEE transactions on magnetism, (1999), 35(5, PART1), 2508-2510, 3 refs.
Conference: 1999 International Magnetism Conference (INTERMAG '99), Kyongju (Korea, Republic of), 18 May 1999
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222H6, 354000087972360920
AN 2000-0018449 PASCAL
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L8 ANSWER 19 OF 29 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED.
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ACCESSION NUMBER: 1998-0323284 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1998 American Institute of Physics. All rights reserved.
TITLE (IN ENGLISH): Influence of microstructure on thermal stability of spin-valve multilayers
AUTHOR: MAESAKA Akihiro; SUGAWARA Nobuhiro; OKABE Akihiko; ITABASHI Masao
CORPORATE SOURCE: Research Center, Sony Corporation, 174 Fujitsuka-cho,

SOURCE: Hodogaya-ku, Yokohama 240, Japan
 Journal of applied physics, (1998-06-15), 83(12),
 7628-7634
 ISSN: 0021-8979 CODEN: JAPIAU

DOCUMENT TYPE: Journal
 BIBLIOGRAPHIC LEVEL: Analytic
 COUNTRY: United States
 LANGUAGE: English
 AVAILABILITY: INIST-126

AN 1998-0323284 PASCAL
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AB We investigated the influence of microstructure on the thermal degradation of giant magnetoresistance ΔR on spin-valve multilayers constructed by IrMn/CoFe/Cu/CoFe/NiFe, using transmission electron microscopy and energy dispersive x-ray spectroscopy. We found that the main cause of thermal degradation at about 250 °C is the interlayer diffusion along the grain boundary, which had more influence on ΔR than the compositional mixing at the multilayer interface. The polycrystal spin-valve multilayers deposited on Ta and CoZrTa underlayers had rapid degradation of ΔR above the annealing temperature of 225 °C, resulting in 16% and 20% degradation at 275 °C, respectively. A Ta underlayer with amorphous structure has the effect of reducing the density of the grain boundary by improving the surface smoothness, as compared with a crystalline CoZrTa underlayer, leading to slightly less degradation. By contrast, a spin-valve epitaxial layer deposited on a MgO(111) substrate brought about a marked reduction of the thermal degradation of ΔR to within 3%, even at 275 °C, due to a remarkable reduction of crystallographic defects like the grain boundary. .COPYRGT. 1998 American Institute of Physics.

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ACCESSION NUMBER: 1998-0518535 PASCAL
 COPYRIGHT NOTICE: Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Fabrication of film heads with high moment materials
 AUTHOR: JONES R. E. JR
 CORPORATE SOURCE: Data Storage Systems Center, Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA 15213-3890, United States
 Institute of Mechanics and Materials, United States (patr.); Acta Metallurgica Inc., United States (patr.)

SOURCE: Acta materialia, (1998), 46(11), 3805-3812, 18 refs.
 Conference: Workshop on "Coupled Property Issues in Integrated Microstructures", Monterey, California (United States), 4 Apr 1997
 ISSN: 1359-6454

DOCUMENT TYPE: Journal; Conference
 BIBLIOGRAPHIC LEVEL: Analytic
 COUNTRY: United States
 LANGUAGE: English
 AVAILABILITY: INIST-7423, 354000077159320110

AN 1998-0518535 PASCAL
 CP Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.

AB The need for film heads made with high moment magnetic materials stems from the desire to write high coercivity recording media high provide short transition zones between magnetized regions. enabling high recording densities. A high magnetic moment delays saturation near the gap edges and an associated broadening of the head's writing field. Many

different high moment film materials are under consideration. These include high moment permalloy films (Ni.sub.4.sub.5Fe.sub.5.sub.5). amorphous cobalt-based films (CoZrTa. CoZrRe), and iron-based films (Fe(N), FeAlN). The advantages and disadvantages of each of these materials will be reviewed in terms of manufacturing deposition techniques and important magnetic and nonmagnetic properties, such as hardness and wear. Manufacturing problems include the need to maintain properties while depositing films on sloping head surfaces and to control the head's trackwidth dimension to submicron tolerances.

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ACCESSION NUMBER: 1996-0355587 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1996 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Induced magnetic anisotropy in Co-TM-Zr (TM=Nb, Ta, Mo, W and Ni) amorphous sputtered films
TITLE: En Japonais
AUTHOR: OTOMO S.
CORPORATE SOURCE: Central Research Laboratory, Hitachi, Ltd., Tokyo, Japan
SOURCE: Nippon Kinzoku Gakkaishi : (1952), (1996), 60(5), 529-536, 32 refs.
ISSN: 0021-4876 CODEN: NIKGAV
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: Japanese
SUMMARY LANGUAGE: English
AVAILABILITY: INIST-7306, 354000060360660140
AN 1996-0355587 PASCAL
CP Copyright .COPYRGT. 1996 INIST-CNRS. All rights reserved.
AB The dependence of induced anisotropy on the composition of Co-TM-Zr (TM = Nb, Ta, Mo, W, and Ni) amorphous sputtered films is investigated. The anisotropy field, H.sub.k of the amorphous films increases with increasing the saturation magnetic flux density, B.sub.s The anisotropy field, H.sub.k is the largest in Co-Ni-Zr films and the strength of H.sub.k decreases in the order of Co-Ta-Zr, Co-W-Zr, Co-Mo-Zr and Co-Nb-Zr films, when H.sub.k is compared among the films with the same B.sub.s. The composition dependence of induced anisotropy in Co-TM-Zr films can be understood by the pair-ordering model assuming that a pseudodipole interaction between a cobalt atom pair depends on the magnetic moment of the Cobalt atom. The relaxation time of anisotropy changes in Co-Nb-Zr and Co-W-Zr films increases by 2 to 3 orders of magnitude by pre-annealing at 400° C, and the activation energy of 3.2 to 3.4 x 10.sup.-.sup.1.sup.9 J (2.0 to 2.1 eV), being one of the highest activation energies for the amorphous alloys, is determined by the analysis based on a Gaussian distribution for the relaxation time.

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ACCESSION NUMBER: 1997-0211779 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1997 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Micromechanical and tribological characterization of alternate pole tip materials for magnetic recording heads
Macro- and micro- tribology and mechanics of magnetic storage systems
AUTHOR: PATTON S. T.; BHUSHAN B.
BHUSHAN Bharat (ed.)

CORPORATE SOURCE: Computer Microtribology and Contamination Laboratory,
Department of Mechanical Engineering, The Ohio State
University, Columbus, OH 43210, United States
Computer Microtribology and Contamination Laboratory,
Department of Mechanical Engineering, The Ohio State
University, Columbus, OH 43210-1107, United States

SOURCE: Wear, (1996), 202(1), 99-109, 33 refs.
ISSN: 0043-1648 CODEN: WEARAH

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: Switzerland

LANGUAGE: English

AVAILABILITY: INIST-8579, 354000062839810090

AN 1997-0211779 PASCAL

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AB Pole tip recession or PTR (relative wear of the pole tip with respect to
the air bearing surface) causes signal loss when using inductive heads.
Loss of signal caused by spacing between a head gap and the recording
medium is magnified in high-density short wavelength recording. Nickel
iron (NiFe) is the most commonly used pole material. NiFe is softer than
the head substrate material (typically Ni-Zn ferrite or
Al.sub.20.sub.3-TiC) which leads to PTR as a result of differential wear
of the materials. Alternate pole tip materials which are more wear
resistant and superior in magnetic properties (such as high saturation
magnetization), as compared with NiFe, need to be developed. In this
research, NiFe, cobalt zirconium tantalum (CoZrTa) and iron aluminum nitride (FeAlN) materials were studied.
In the first phase of this study, micromechanical characterization of the
three pole tip materials, the alumina (Al.sub.20.sub.3) insulating
under/overcoat and gap material and the Al.sub.20.sub.3-TiC substrate was
conducted using a depth-sensing nanoindenter. The nanohardness of NiFe,
CoZrTa and Al.sub.20.sub.3 are similar and about one half that of
FeAlN, and the hardness of the Al.sub.20.sub.3-TiC substrate is about
twice that of FeAlN. Microscratch studies showed that the critical load
required to cause failure of the NiFe and CoZrTa films are
similar and about one fourth that of FeAlN, and the critical load for
FeAlN is comparable with that of the Al.sub.20.sub.3 and
Al.sub.20.sub.3-TiC substrate. Thus, FeAlN is superior in mechanical
properties to NiFe and CoZrTa. In the second phase of this
study, dummy tape heads fabricated with the three pole materials were run
against metal particle (MP) tape in a linear tape drive. The PTR was
measured by atomic force microscope (AFM) imaging before and after the
sliding tests. Any nonuniformities in the thin-film region gets removed
in the first few kilometres of sliding. FeAlN poles exhibited a low (.eqvsim. 10 nm) and constant PTR over 1 000 km of tape sliding distance,
whereas the NiFe and CoZrTa poles exhibited growth in recession
to about 30 and 40 nm, respectively, over the same sliding distance. The
superior wear resistance and high saturation magnetization of FeAlN are
ideal for high-density thin-film inductive heads.

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ACCESSION NUMBER: 1995-0554165 PASCAL

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TITLE (IN ENGLISH): Metal core recession and heat stain studies of MIG
heads sliding against cobalt-doped gamma iron oxide
and metal particle tapes

AUTHOR: TSUCHIYA T.; BHARAT BUSHAN

CORPORATE SOURCE: Ohio State univ., dep. mechanical eng., computer
microtribology contamination lab., Columbus OH

SOURCE: 43210-1107, United States
 Tribology transactions, (1995), 38(4), 941-949, 18
 refs.
 Conference: ASME/Society of Tribologists and
 Lubrication Engineers STLE. Tribology conference,
 Lahaina HI (United States), 16 Oct 1994
 ISSN: 1040-2004

DOCUMENT TYPE: Journal; Conference
 BIBLIOGRAPHIC LEVEL: Analytic
 COUNTRY: United States
 LANGUAGE: English
 AVAILABILITY: INIST-8977, 354000050220180240

AN 1995-0554165 PASCAL
 CP Copyright .COPYRGT. 1995 INIST-CNRS. All rights reserved.
 AB Metal-in-gap (MIG) heads are commonly used for high-density magnetic
 recording. Metal core recession and head stains increase the gap between
 the tape and the head, resulting in signal loss. In this study,
 accelerated sliding wear tests of Co- γ Fe.sub.20.sub.3 and metal
 particle (MP) tapes against MIG heads made of three different amorphous
 and nanocrystalline metals were conducted under various operating
 conditions. Metal core recess and propensity for head staining were
 measured. The degree of tape contact with a recessed core was also
 measured by pressing the tape against a glass slide with Cr grids and
 using an optical interference technique. The authors found that the core
 recess was about the same for all three core metals. Core recess by MP
 tape was larger than that by oxide tape. The tape speed appeared to have
 little effect on the recess value. The authors also found that
 significant recess may occur during initial contouring of the head
 surface ; however, after sliding for about 250 km, core recess reaches a
 steady-state value which may be either higher or lower than the initial
 values. The mechanism of core recession was studied. The authors believe
 that core recession occurs as a consequence of the debris trapped between
 the tape and the core, in addition to that caused by some tape contact.
 Formation of head stains was observed in all combinations. The stains
 formed on the metal cores were heaviest for CoNbZr metal, followed by
 CoTaZr and FeTaC. Co- γ Fe.sub.20.sub.3 tape produced a more
 severe stain than the MP tape. The apparent roughening of head rubbing
 surface observed for CoNbZr heads sliding against Co-
 γ Fe.sub.20.sub.3 tape was due to the formation of stains.

L8 ANSWER 24 OF 29 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED.
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ACCESSION NUMBER: 1994-0269335 PASCAL
 COPYRIGHT NOTICE: Copyright .COPYRGT. 1994 American Institute of
 Physics. All rights reserved.
 TITLE (IN ENGLISH): Magnetic domain structures and dynamics of
 CoTaZr/Cr multilayered films
 AUTHOR: YAMAMOTO Kazuhiro; MATSUYAMA Hideo; HAMAKAWA
 Yoshihiro; KITADA Masahiro
 CORPORATE SOURCE: Central Research Laboratory, Hitachi Ltd., Kokubunji,
 Tokyo 185, Japan
 SOURCE: Journal of Applied Physics, (1994-03-15), 75(6),
 2998-3001
 ISSN: 0021-8979 CODEN: JAPIAU

DOCUMENT TYPE: Journal
 BIBLIOGRAPHIC LEVEL: Analytic
 COUNTRY: United States
 LANGUAGE: English
 AVAILABILITY: INIST-126

AN 1994-0269335 PASCAL
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AB The permeability, domain structure, and dynamic magnetization change of CoTaZr/Cr multilayered stripes are studied. The frequency dependence of permeability is improved by lamination with Cr layers, which eliminates the closure domain structure. An edge curling wall (ECW) is observed near the edge of the multilayered stripes. The width of the ECW agrees well with calculations and is independent of stripe width. The magnetization in the ECW is difficult to rotate by the external magnetic field; therefore, the permeability of a narrow stripe is less than that of wider stripes.

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ACCESSION NUMBER: 1994-0679453 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1994 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Development of precision three-points bending machine for measuring Young's modulus of thin films for electronic devices
TITLE: En Japonais
AUTHOR: HASHIMOTO K.; SAKANE M.; OHNAMI M.; YOSHIDA T.
CORPORATE SOURCE: Ritsumeikan univ., Kusatsu 525-77, Japan
SOURCE: Zairyo, (1994), 43(489), 703-709, 17 refs.
ISSN: 0514-5163 CODEN: ZARYAQ
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Japan
LANGUAGE: Japanese
SUMMARY LANGUAGE: English
AVAILABILITY: INIST-12572, 354000047095080180
AN 1994-0679453 PASCAL
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L8 ANSWER 26 OF 29 PASCAL COPYRIGHT 2008 INIST-CNRS. ALL RIGHTS RESERVED.
on STN

ACCESSION NUMBER: 1994-0609132 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1994 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Flux propagation of single-layered and six-layered thin film magnetic heads
AUTHOR: NARUMI S.-I.; AIHARA M.; FUKUI H.; SUDO S.; MITSUOKA K.; IMAGAWA T.
CORPORATE SOURCE: Hitachi Ltd, Hitachi res. lab., Hitachi, Ibaraki 319-12, Japan
SOURCE: IEEE, New York NY, United States (patr.)
IEEE transactions on magnetics, (1993), 29(6, p.1), 2560-2562, 10 refs.
Conference: INTERMAG'93 : international magnetism conference, Stockholm (Sweden), 13 Apr 1993
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222 H6, 354000048692370670
AN 1994-0609132 PASCAL
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ACCESSION NUMBER: 1993-0384457 PASCAL

TITLE (IN ENGLISH): High frequency characteristics of multi-layered
CoTaZr cores for thin heads
AUTHOR: ARAI R.; MITSUOKA K.; FUKUI H.; AKIMOTO H.; NARISHIGE
S.
MULLER Marcel W (pref.)
CORPORATE SOURCE: Hitachi Ltd., Hitachi res. lab., Hitachi, Ibaraki
319-12, Japan
Washington univ., dep. electrical eng., Saint Louis MO
63130, United States
SOURCE: IEEE transactions on magnetics, (1992), 28(5, p.2),
2115-2117, 7 refs
Conference: 1992 International magnetics conference
(INTERMAG'92), Saint Louis MO (United States), 13 Apr
1992
ISSN: 0018-9464 CODEN: IEMGAQ
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-222 H6, 354000031611720070
AN 1993-0384457 PASCAL

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ACCESSION NUMBER: 1992-0082377 PASCAL
TITLE (IN ENGLISH): 180° wall movement in a magnetic thin-film
closure domain structure in a high-frequency field
AUTHOR: ISHIKAWA C.; SASAKI S.; MORIWAKI E.; HAMAKAWA Y.;
SHIIKI K.; SHINAGAWA K.
CORPORATE SOURCE: Hitachi Ltd, cent. res. lab., Tokyo 185, Japan
SOURCE: Journal of applied physics, (1991), 70(4), 2259-2263,
7 refs.
ISSN: 0021-8979 CODEN: JAPIAU
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-126, 354000010013050540

AN 1992-0082377 PASCAL

AB The dynamic behavior of a 180^{sup.o} wall was observed in a Co-based
amorphous alloy film using a Kerr microscope. As a function of an
anisotropy direction the amplitude of the 180^{sup.o} wall movement was
measured with the drive field applied transverse to the 180° wall
of the closure domain structure. The anisotropy direction was varied by
magnetic heat treatment. It was found that the 180^{sup.o} wall moved
independently of the anisotropy direction, that is, the 180^{sup.o} wall
movement is related only to the applied high-frequency field

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ACCESSION NUMBER: 1990-0001545 PASCAL
TITLE (IN ENGLISH): Analysis of domain structure by calculating
magnetostatic energy for magnetic thin film
TITLE (IN FRENCH): Analyse de la structure des domaines en calculant
l'energie magnetostatique pour les couches minces
magnetiques
AUTHOR: SAKA C.; SHIIKI K.; SHINAGAWA K.
CORPORATE SOURCE: Hitachi ltd., Tokyo 185, Japan
SOURCE: Journal of applied Physics, (1989), 66(3), 1285-1290,
5 refs.
ISSN: 0021-8979

DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: CNRS-126

AN 1990-0001545 PASCAL

ABFR Determination d'une methode permettant de calculer l'energie magnetostatique par une approximation bidimensionnelle. Analyse, a partir de l'energie magnetostatique, de la structure des domaines d'une couche mince magnetique. L'energie $E_{\text{sub}}S$ est calculee comme le produit du champ demagnetisant $H_{\text{sub}}d$ et de l'aimantation M . Comme $H_{\text{sub}}d$ varie a l'interieur d'un domaine, $E_{\text{sub}}S$ doit etre calculee dans un nombre de regions sousdivisees, dans lequel $H_{\text{sub}}d$ est uniforme. Calcul de la direction d'aimantation correspondant a l'energie minimale. Application a l'alliage CoTaZr